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MEMO

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From:

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Date:

August 8, 2013

ARCADIS Project No.:

SK030326.0001

Subject:

Administrative Order on Consent (SDWA-10-2013-0080) – Liberty Dairy, LLC and its associated Dairy Facility H&S Bosma Dairy - Liberty Dairy and H&S Bosma Dairy Lagoon Review Report – Version 2

This memorandum provides a review of available documentation for lagoons located at the Liberty Dairy and H&S Bosma Dairy in accordance with Section III.F.6 of the Administrative Order on Consent (AOC) Scope of Work (SOW) (SDWA-10-2013-0080). Section III.F.6 of the AOC SOW requires that “Respondents shall submit to the EPA a Lagoon Review Report that provides documentation, i.e., plans and specifications signed by a WA licensed engineer that shows existing lagoons are constructed to current WA NRCS 313 standards, including a soil permeability rate not to exceed 1×10^{-6} .” Due to a lack of available documentation regarding the design and construction of the lagoons at the dairies, this memorandum was generated to serve as the Lagoon Review Report.

Comments on this lagoon review report were received from EPA and have been incorporated into this version (Version 2) of this memorandum.

Dairy Lagoon Inventory

There are a total of 6 lagoons located at the Liberty Dairy (Lagoons 14 through 18 and the Red Water Pond (Figure 1a). EPA comments identified 3 additional potential lagoons at the Liberty Dairy. These ponds are labeled as Frost Ponds on Figure 1a. The two frost ponds located to the west of the Liberty Dairy are irrigation water ponds. Both located up- and cross-gradient of the dairy and receive no dairy water, stormwater runoff, or animal wastes from the dairy facility. The frost pond located to the south of

Lagoon #18 is separated from dairy facility water by berms and an intervening dike between it and Lagoon #18. Water in the Frost Pond is from the irrigation system for the orchards located to the south.

There are a total of 16 lagoons located at the H&S Bosma Dairy (Lagoons 1 through 13 [includes 4A and 4B] and Lagoons 19 and 20; Figures 1b and 1c). EPA comments identified an additional potential lagoon at the H&S Bosma Dairy adjacent to Lagoon 1 (Figure 1c). This potential lagoon is actually a frost pond for the orchards to the south of the pond. The frost pond does not receive dairy water, stormwater runoff, or animal wastes from the dairy facility and is not included in the dairies water management system.

Records Review

All available information regarding the design and construction of lagoons at the dairies were obtained from the Natural Resources Conservation Service (NRCS) and South Yakima Conservation District (SYCD) offices located in Zillah, Washington. Records regarding lagoons from the NRCS/SYCD offices were minimal and focused mainly on Washington Department of Ecology Dam Safety Act requirements. It is believed that the design and construction documents for the lagoons from the dairies were misplaced during office relocation activities.

Summary

No professional engineering design and construction plans and or specifications, or other documentation is available to determine whether the lagoons located at either the Liberty Dairy or H&S Bosma Dairy were constructed in accordance with WA NRCS 313 requirements for permeability, as required under Section III.F.6 of the AOC SOW.

In accordance with Section III.F.6 of the Consent Order SOW, a Lagoon Evaluation Plan will be prepared and submitted to EPA for the following facilities:

Liberty Dairy:

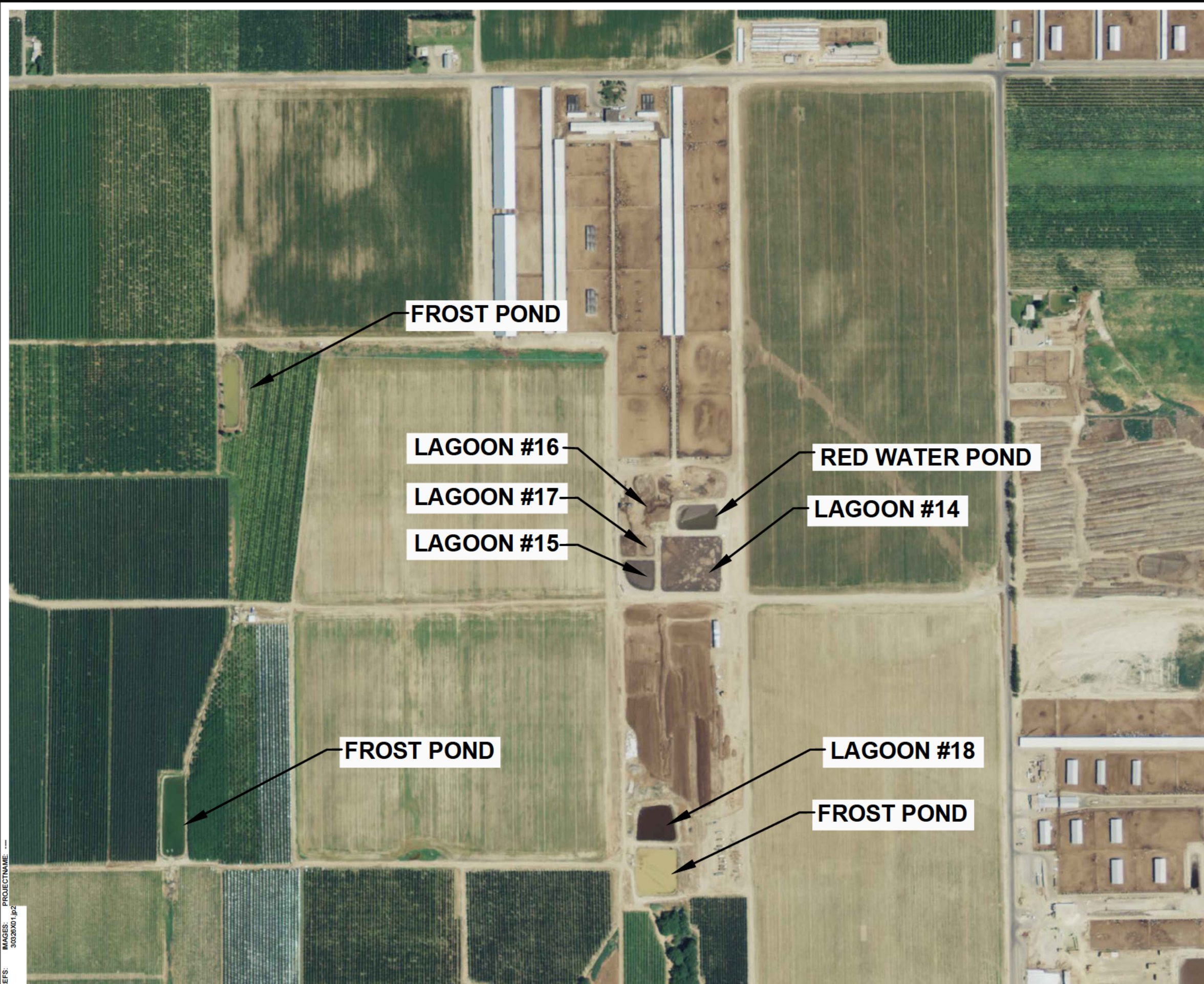
- Red Water Pond
- Lagoon 14
- Lagoon 15
- Lagoon 16
- Lagoon 17
- Lagoon 18

H&S Bosma Dairy:

- Lagoon 1

- Lagoon 2
- Lagoon 3
- Lagoon 4A
- Lagoon 4B
- Lagoon 5
- Lagoon 6
- Lagoon 7
- Lagoon 8
- Lagoon 9
- Lagoon 10
- Lagoon 11
- Lagoon 12
- Lagoon 13
- Lagoon 19
- Lagoon 20

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LIBERTY DAIRY, LLC
5860 EAST SILLAH DRIVE
ZILLAH, WA 98953

LAGOON MAP



FIGURE
1A

SOURCE: WASHINGTON 2011 NAIP ORTHO-IMAGERY-18 INCH DATA, WASHINGTON STATE ORTHOIMAGE PORTAL [HTTP://GEOGRAPHY.WA.GOV/ORTHO]

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G:\ENV\CAD\SYRACUSE\ACT\SK030326\000000\000001\DWG\30326B04.dwg LAYOUT: 1B SAVED: 8/9/2013 11:05 PM ACADVER: 18.1S (LMS TECH) PAGES: 1 OF 1 PLOTSETUP: --- PLOTSTYLETABLE: PLT\FULL.CTB PLOTTED: 8/9/2013 11:06 PM BY: BASSETT, RICHARD
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SOURCE: WASHINGTON 2011 NAIP ORTHO-IMAGERY-18 INCH DATA, WASHINGTON STATE ORTHOIMAGE PORTAL [[HTTP://GEOGRAPHY.WA.GOV/ORTHO](http://geography.wa.gov/ortho)]

0 600' 1200'
GRAPHIC SCALE

H & S BOSMA DAIRY
1271 LIBERTY ROAD
GRANGER, WA 98932

LAGOON MAP



FIGURE
1B

